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GLOBAL WARMING AND CLIMATE CHANGE- NATIONAL AND INTERNATIONAL MOVEMENTS

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ABSTRACT----------
Global warming and Climate change are the twin growing concern as far as world nations are concerned. These two phenomenon make a lot of serious implications on living organism across the world. Unless a world wide discussion has been undertaken to tackle this issue, it would become disaster that carve the living things in the globe. Through this paper an attempt has been made to know the implications of global warming and climate change on earth . Various national and international level committees and conventions those shed light on issue of climate change also come under the scope of this study. Even though a lot of movements have been undertaken to tackle the issue at national and international level, the concentration of green house gas in the atmosphere is increasing at an alarming rate day by day.
KEY WORDS: ***Global warming, Climate change, Kyoto Protocol*----------**

INTRODUCTION

Both the term climate change and global warming are widely being discussed in medias and conventions both national and international level. Lot of conventions and committees are organised and constituted in order to address various issues which creates environmental degradation like global warming , ozone depletion etc and also to fight against climate change. Inter Governmental Panel on Climate Change(IPCC), United Nations Framework Convention on Climate Change(UNFCCC), Paris Conventions, Kyoto Protocol, Montreal Protocol etc are the popular International level conventions focusing on climate change and global warming. Every year the Parties to the Convention of UNFCCC meet annually since 1995 Conferences of the Parties (COP) to assess the progress in dealing with climate change. Hopefully, Recently the people across the world are set in motion and deeply discuss about the impact of climate change. This awakening is mainly because, the nature is showing avenge through climate change and natural calamities against the hazardous created by the people to the environment. Children through out the world even at school level also come forward to fight against climate change. We might have familiar the face of Gretta Thunberg, a 16 year old Swedish school going girl who raised her voice against world leaders in UN Convention on Climate change recently held at Newyork for their negligence in fighting against climate change.

A lot of controversies and allegations are going on among environmentalist regarding the role of human being in climate change. Since the Industrial Revolution, human being have contributed to climate change through the emission of effluents in the form of green house gases like Carbon dioxide, Methane, Carbon monoxide etc. Change in land use, deforestation, mining, quarrying, filling of river beds and other water shedded areas, burning of fossil fuels like coal, oil, natural gas etc. are also leads to global warming. Even though environmentalist are alleged that the evil deeds of human being are the major cause of climate change, we can't belittle the role of nature in it. Volcanic eruptions, land slides, soil erosion, cyclones, drought, flood etc. are also contributes to climate change. Even though the government has been taking a lot of measures like bringing electric vehicle, vehicle pooling system, carbon credit, green financing, zero carbon projects etc. in order to tackle climate change. However, it is really impractical to control the climate change in a short span of time especially in a thickly populated country like India.

Objectives of the study

As global warming is a growing concern through out world, an attempt has been made to address some of aspects of it through the following objectives

1. To familiarise the concept global warming and climate change
2. To check the causes of global warming and its impact on environment

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3. To familiarise the national and international level committees and convention related to climate change.

Global Warmig- A growing threat to the environment

Global warming is a phenomenon of increasing atmospheric average temperature. Scientific evidence shows that if the global average temperature come above 3.6 Degreee Farenheit, It would be difficult to sustain for living organism. When the atmosphere gets more and more warmer due to concentration of green house gases in the atmosphere, it would become a threat to the living beings. Lot of treaties and conventions are signed by the nations in order to reduce the level of atmospheric temperature. An increase of 2°C compared to the temperature in pre-industrial times is seen by scientists and they attribute this change in temperature as human made.

How Global Warming happens

It is a natural truth sun is the major source of heat in the atmosphere. When the sun rays hits on the earth, earth usually direct the same to the space again. If there is no layers or blankets in the form of particles, water vapour or green house gases, the sun rays directed or reflected by the earth moves to the space without stuck same in the atmosphere. Thereby the atmosphere gets cooler and form a conducive environment for living organism. Due to Industrial Revolution, and increased number of vehicles on the road, burning of fossil fuel etc. the quantity of green house gases in the atmosphere increases. Carbon dioxide, Carbon Monoxide, Chlorofluro carbon, Nitres Oxide, Methane etc. forms major chunk of green house gases in the atmosphere. The largest source of green house gas is carbon dioxide. Burning of fossil fuels and deforestation are the predominant reasons for increasing the level of carbon dioxide. Increasing the level of green house gases act as a threat to the atmosphere as it act as a blanket or layer in the atmosphere and prevents the sun rays absorbed and directed by the earth to the space. As green house gases stay in the atmosphere like a blanket, it would not allow the sunrays to pass through it and moves to space. Instead the green house gases again redirect the sunrays to the atmosphere. This creates the warmth of atmosphere increase.

Impact of global warming on climate

Global warming threatens climate systems. Hotter temperatures both on land and at sea alter global weather patterns and change precipitation falls. The changing pattern of temperature creates dangerous and deadly drought, heat waves, floods, wildfires, and storms, including hurricanes. They also melt ice caps, glaciers, and layers of frost, which can lead to rising sea levels and coastal erosion. Warmer temperatures impact whole ecosystems as well, throwing migration patterns and life cycles out of order. Global warming creates water scarcity, hence plants are expected to become drier, creating the potential decay of the plants.

International committees and conventions on climate change

A lot of international treaties, protocols, agreements and committees are formulated by the countries all around the world jointly and individually to protect the environment from climate change. Among those panels and conventions, A few of them got international importance are listed in this paper.

Montreal Protocol

Montreal Protocol, formally known as **Montreal Protocol on Substances that Deplete the Ozone Layer** is an international treaty, adopted in Montreal on Sept. 16, 1987, that aimed to regulate the production and use of chemicals that contribute to the depletion of Earth's ozone layer. Initially signed by 46 countries, the treaty now has nearly 200 signatories. The initial agreement was designed to reduce the production and consumption of several types of CFCs (Chloro Fluro Carbons) and halons to 80 percent of 1986 levels by 1994 and 50 percent of 1986 levels by 1999. The protocol came into effect on Jan. 1, 1989. Since then the agreement has been amended to further reduce and completely phase out CFCs and halons, as well as the manufacture and use of carbon tetrachloride, trichloro ethane, hydro fluoro carbons (HFCs), hydro chloro fluoro carbons (HCFCs), hydro bromo fluoro carbons (HBFCs), methyl bromide, and other Ozone Depleting Chemicals(ODCs). Several subsequent meetings of the signing countries were convened to track overall progress toward this goal and to authorize new changes to the process of phasing out ODCs.

Intergovernmental Panel on Climate Change (IPCC)

The IPCC was established in 1988 jointly by World Meteorological Organisation (WMO) and United Nations Environment Program (UNEP). Any county who have taken membership in WMO in UNEP can join in this panel. IPCC produces reports that contribute to the work of the United Nations Convention on Climate

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Change. It is the leading international body for assessing climate change. The main aim of this panel is to review the current status of climate change through scientific methods and check its potential environmental and social impacts and pass the communication to the relevant bodies like UNFCC to take remedial actions and policy formulation. Around 195 countries are presently member of this panel.

United Nations Framework Convention on Climate Change (UNFCC)

The United Nations Framework Convention on Climate Change **(UNFCCC**) is an international environmental treaty adopted on 9 May 1992 in Earth summit held at Rio de Janeiro. It came into force on 21 March 1994. The objective of UNFCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The framework sets non-binding (not legally mandated) limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. Instead, the framework outlines how specific international treaties like protocol, agreements etc. may be incorporated to attain the objective of the UNFCCC. As of now around 197 member countries have taken membership in UNFCC

Kyoto Protocol

Kyoto Protocol is an international agreement aimed to reduce CO2 emissions and other green house gases in the environment. It was adopted in Kyoto, Japan in 1997 as per COP 3. This protocol was adopted as a result of the increased level of green houses gases in the environment. The main focus of Kyoto protocol was 37 industrialized nations. Unlike UNFCC, Kyoto protocol is a legally binded agreement. Even though it was legally binded agreement, certain flexibility were allowed in achieving target. The detailed rules for implementation were adopted at Cop 7 in Marrakesh in 2001 and are called **Marrakesh Accords**. But it has become an international law only in **February 16, 2005**. As per the Kyoto protocol, it is mandatory for industrialized nations to cut their annual carbon emission by an average of 5.2% below their 1990 level by the end of the year 2012. Kyoto Protocol applies to the six greenhouse gases namely, Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydro fluorocarbons (HFCs), Per fluorocarbons (PFCs), and Sulphur hexafluoride (SF_6). Under the protocol, 37 industrialized nations and the European community have legally committed to reduce their emission. The country can attain the target through a mix of domestic reductions and the purchase of international carbon credits. 192 parties have ratified the protocol. The target to reduce the green house gases depend upon individual countries. As per the Kyoto protocol, the members of the European Union agreed to reduce the emission by 8%, US by 7% and so on. The first commitment period under Kyoto protocol is 2008-2012. At the end of 2012, the reduction of 11% could be projected for the first commitment period. Carbon market, Clean Development Mechanism(CMD) and Joint Implementation are the three mechanism suggested for the countries to reduce green house gases. In 2012 United nations climate change conference held at Doha, an amendment has made and decided a second commitment period of Kyoto Protocol commonly known as **Doha Ammendment** for 2013-20. As per Kyoto protocol, there is a provision for penalty for the countries those who do not meet the target of carbon emission. Even though India was a signatory in the first commitment period of Kyoto protocol, the country ratified the Kyoto protocol in the second commitment period.

Paris Agreement

Paris Agreement is the first universal and legally binding agreement on climate change, Adopted in 2015 at the end of the United Nations Climate Change Conference(COP21). It was came into force on 4th November 2016 representing 55% of total greenhouse gas emissions. The primary aim of Paris agreement is to reduce the climate change due to global warming by keeping global temperature rise this century well below 2 degree Celsius above pre-industrial levels and to continue efforts to limit the temperature increase further to 1.5 degree Celsius. It has been signed by 197 countries and ratified by 185 as of January 2019. Unlike the Kyoto protocol, all countries irrespective of their development status can voluntarily join in the protocol and set their target.

National level committees and conventions on climate change

Various committees at national, state, local and institutional levels are set up to address climate change issues from time to time in India. A special council called Council on Climate Change has been set up in 2007 under the Ministry of Environment , Forest and Climate change to formulate policies and programs and committees to tackle climate change and protect the environment.

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Gadgil Committee on protection of Western Ghats in India

Madhav Gadgil panel formerly known as Western Ghats Ecology Expert Panel was formed in 2010 to study the impact of population pressure, climate change and development activities on the western ghats. The committee was formed under the leadership of Madhav Gadgil to study the developmental activities and environmental hazardous activities in the western ghats, the most environmentally sensitive area. The commission has submitted their report to Government of India on 31st August 2011.The western ghats of India consists the mountain ranges of six states namely, Kerala, Tamilnadu, Karnataka, Maharashtra, Goa and Gujarat. As per the Gadgil committee the area covered under western ghats are 1,29,037 square KM. The committee classified whole area of western ghats into three: namely, ESZ-1, ESZ-2 and ESZ-3 . The 66% of total area come under ESZ-1. The committee strictly restricted all developmental activities including agricultural activities in this area by considering it as a high priority area. The committee suggested decentralisation by ensuring the involvement of local authorities in regulating the developmental activities, mining, quarrying etc. in this area and also recommend the formulation of Western Ghat Ecology Authority as a statutory authority to control the activities in western Ghats. Lot of controversies are raised against the recommendations of Gadgil Committee by claiming that the recommendation is environmentally close but suggested without considering the reality

Kasturirangn Committee

In August 2012 the Government appointed another committee under the chairmanship of Kasturi Rangan, the former ISRO chairman, to study about western ghats inorder to implement the recommendations of Gadgil Committee. As per Kasturi rangan committee, the area of western ghats is 1,64,280 square KM. Kasturi Rangan Committee report recommended that, only 37% of the total area of western ghats i.e., 60,000 Sq km come under Ecologically sensitive area(ESA). A complete ban on mining Quarrying and other developmental activities in this area. The committee recommended that current mining in ESA should be phased out within the next five years or at the time of expiry of mining lease whichever is earlier. At the same time red industries i.e highly polluting industries are strictly banned in these areas.

CONCLUSION

Climate change has becoming a growing concern and serious threat to the living organism through out the world. This change in climate is not only due natural process but also due to the intervention of human being to a large extent. At national and international level, lot of movements are going on to tackle the climate change due to human intervention. Human beings are exploiting the nature to satisfy their needs and wants without thinking its impact on environment. Even in Ecologically sensitive areas decided by Gadgil Committee, we can see around 3,200 quarries. Around 655 quarries are there in ESZ areas recommended by Kasturi Rangan Committee. Even though both Gadgil and Kasturi Rangan Committee recommended to implement their recommendation in western ghats, the government could not be able toimplement the same so far due to the protest from different sectors and red tapism. If the people are not concerned about their evil activities that creates hazards to environment, definitely the environment itself shows avenge on it.

REFERENCE

1. *www.unfccc.int*
2. *www. moef.nic.in*
3. *Francis Cherunilam: Business Environment, Himalaya publishing House, Mumbai.,*
4. *Mishra, V. (2003). Health Effects of Air Pollution, Background paper for PopulationEnvironment Research Network (PERN) Cyberseminar, December 1-15. Retrieved from http://www.mnforsustain.org/climate_health_effects_of_air_pollution_mishra_pern.htm*
5. *Harvath, A. & Hegedus, E. (1994). Hazardous Wastes in Hungary-National Report, Central European Journal of Public Health, 2(suppl), pp. 30-33.*
6. *Health and Energy, (2007). Air Pollution Health Effects, Retrieved from http://healthandenergy.com/air_pollution_health_effects.htm*
7. *Kan, H. (2009). Environment and Health in China: Challenges and Opportunities Environmental Health Perspectives, 117(12), pp. A530-A531*
8. *Khan, S. I. (2004). Dumping of Solid Waste: A Threat to Environment, The Dawn, Retrieved from http://66.219.30.210/weekly/science/archive/040214/science13.htm*